

Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

OCT. 14, 1946



Latest Grumman Amphibian: Newest in a long line of widely known amphibian planes named for water fowl, which included the Duck, the Gray Goose, and the Widgeon, is the Grumman Mallard, 8-10 place amphibian, aimed at air carrier, industrial company and private owner markets. (Story and additional pictures on pages 11-12)

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The Navy's NEW Seahawk

—for Reconnaissance and Rescue



Drawing on the wartime Seahawk's extensive service with the Pacific Fleet, Navy and Curtiss-Wright engineers have developed the SC-2, a new seaplane of unprecedented range, speed, firepower, and general utility.

More room in the fuselage, with an extra seat off the pilot, provides for air-sea rescue work at far reconnaissance planes. Propeller has been increased beyond that of previous types by the installation of rockets under the wing. The new, hydraulically operated radio equipment is equipped for quick opening by compressed air in emergencies. A Wright Cyclone engine with two-speed supercharger gives the SC-2 a service ceiling of 28,000 feet, and provides increased range and speed. It is equipped with a Curtiss Electric three-blade propeller.

The Seahawk is now being delivered to the Navy from the Curtiss-Wright, Columbus, Ohio, plant.

FIRE IN FLIGHT

CURTISS-WRIGHT
Airplane Division
COLUMBUS, OHIO

Developing Flight to
Meet the Future.

THE AVIATION NEWS

Washington Observer



MITCHELL BOARD IDEA SURVIVES — Sen. Mitchel will continue to press for his air board proposal regardless of President Truman's executive order expanding the old Air Conditioning Committee. With addition of the Post Office and CAB as voting representatives, the group enjoys more interdepartmental ground, but it is still nearly a Federal measure between aviation agencies. Mitchel's board would take a detached view of broad civil and military aviation problems.

MORE MILITARY SECURITY—There is no doubt that the Pentagon is worrying about our relations with Russia, for more than ever before. As a result, Washington news men are running into a climate of anxiety that is reminiscent of wartime. Every significant development in armament research is going on the security list. Most recent subject to be added concern interplanetary work. A press demonstration of the giant Convair B-36 bomber which had been classified for less than a month has been canceled by the AAF, and no further information about the big ship will be released for the time being. Another AAF press trip to unveil guided missile development at Wernher Tiedt has been eliminated. The News has already said and many steps taken to protect details of future speed runs at MacCoy Dry Lake by the AAF.

PROCUREMENT FUNDS IN DANGER—The aircraft industry is worried over the huge amount of unclassified funds piling up in AAF and Bureau of Aeronautics. Total is now believed to be about \$500,000,000. Both services because of general say sufficient resources, because manufacturers—for reasons not their fault—are many months behind in deliveries on present schedules. Funds appropriated for 1957 procurement by AAF and Bureau are not as large as believed necessary to keep the industry healthy over a long period, yet the large amount unobliged will have an adverse effect upon 1958 procurement programs—now only a few months away.

PROFIT LIMITATION OUT—Industry officials feel certain now that the forthcoming Congress will repeal the profit limitation on aircraft and shipbuilding contained in the Winson-Trammell Act. Bill for repeal was introduced last session, but became tangled in the unification fight. Now the Comptroller General has submitted a report to the Budget Bureau recommending repeal. This aligns General Accounting Office with Treasury, War and Navy which previously voted the same recommendation to Budget.

NON-SCHEDULED LINE UP SUPPORT—Air Transport Association is preparing to contact all cargo route applicants who division companies to its member airlines, but the air freighters are countering by saying they are not being forced to withdraw from the service to establish the need for certification of their service. That the national basic is the two groups meet in the local area.

AIR PARCEL POST DRIVE NEXT—Post Office officials, having made a blustery move in the reduction of foreign air mail rates as a sequel to domestic rates, will now turn their attention to air parcel post in their next major objective. Parcel post legislation was given passage in the last Congress adjourned, and the department hopes for early action by the next Congress. Gen. Sullivan, Second Assistant Postmaster General, hopes to see more frontliners in the northwest, southwest and southeast segments of the country. He will move to bring RFD under the jurisdiction of his office and intends to start a survey next year of the entire postal network for measures that can be taken to expedite service.

BRITISH LOOK AHEAD ON TRANSPORTS—

Visions returned from England in recent weeks report that British aircraft spokesman concede America's preeminent leadership in transport, but promise that within five years they will have superior models. This coincides with pledges made throughout the world by British foreign trade ministers. Concentration on jet and turbine transport is evident in England, Manchester, with new purchases announced by KLM of Convair 240's and by Air France of the 240 or Martin 202. For European short-range services, British European Airways is reconsidering its decision, already announced, to buy a fleet of Vickers Vikings. Instead, it appears at this point that further purchases by the British of U. S. planes are likely to be added to the recent deals for Conairflights and Scandinavian. The resulting announcement is expected to rouse a furor in Parliament.

SUBCONTRACTORS IN AIA—At the suggestion of the Army and Navy, Aircraft Industries Association is considering a plan to extend some form of associate membership to the large wartime subcontractors, such as automobile and refrigerator manufacturers. Such purpose would be to provide a method of keeping such companies advised of industrial preplanned plans. Subcontractors would in no sense be full members of AIA.

The Birdmen's Perch

By Major Al Williams, AIAA, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 20, Pa.



Hey, get a lead of us!

You may have called us Major, in the past. Or "Al," or even, "The

But in the future, we expect you to add "Senior" over us. Brother Major Al! You see, we've got a lesson from Joys of Kester Aeromaritime Films, Kau Kauon, France, 1941. *Ris de Jalousie!*

Not only has Senator Kester been reading the *Perch* for a long time, but he says, "The *Ladies' Room* Books Above Well Known From Paris, has always got my special attention. And he signs off by sending us a "Perch Pilot" hat, our first International Perch Pilot (h).

His conclusion is on the very bottom:

"The lead line of the "Rainbow," the slick new plane our P-47s have been testing, is enough to drive 20 average ladies a week's trip from New Francisco to New York."

Now, if our friend was down in Brazil, you'd just laugh because of what he should certainly do to us to make up a Little Kester Post (with pride!) and save your communists in French Algeria (h).

Even Raynor, 307 Helen St., Camden, Ark., did

"It takes 97 men to fly a single TBF off a carrier!"

And Perch Pilot Billy Stodd, Larchville, Ark., back for the 3rd time (as expected) TATT! makes you a Senior Perch Pilot you know (h).

"A single cylinder in the Navy's F-8 is developed over horsepower than a whole auto engine!"

About your interesting lots of numbers on the ribbon on the top of the page—use our launch price, and you, too, can get a handsome captured-type conversion!

The lead of the next Perch Pilot is:

SPOT NEWS

Maybe that'll surprise you.

Most airplane engines are considered low speed engines—by comparison to the average auto engine.

And the bulk of the following of an plane engine remains at moderate and constant temperatures.

But all over and through the engine there are hot spots, what you call "hot" temperatures are normal! It's at these spots that your engine will really take a heating.

And a reference concern on the ground gives cause to continuous readings while engine缸堵 registers and records all the loads and stresses imposed on the engine.

Steady! Huh?

Gulf Oil Corporation and Gulf Refining Company...makers of

GULF
AVIATION
PRODUCTS

TAKE A TIP FROM THE NAVY BUREAU AND NEVER AGAIN...
NEVER...

...TAKE A GAS TANK FULL
COMPLETELY DRY, UNLESS
ABSOLUTELY NECESSARY

TAKE A TIP FROM US AND
ALWAYS ALMOST FULL
REFILL YOUR TANKS WITH...

...THAT GOOD GULF
AVIATION GASOLINE



Airlines Launch Vigorous Drive To Capture Air Freight Business

ATA plans for cancellation of existing REA contracts; opposition to certification of nonscheduled carriers and reorganization of Air Cargo Inc.

A vigorous drive by the scheduled airlines to capture more of the air cargo business into which the nonscheduled carriers have made inroads was underway last week as CAS, Inc., as the regulatory trust, prepared for an extensive inquiry into the place of freight forwarders in the complex air cargo picture.

The scheduled carriers set out on their long-studied campaign (AVIATION NEWS, June 10) with plans for increased service and reorganization of Air Cargo, Inc., a service rather than a research group.

The Civil Aeronautics Board, breaking trail in the air freight forwarder field, launched a complete study of these indirect air service and their place in the total air cargo picture as a week. Based action will soon dispense of virtually the entire freight forwarder question, including the status of Railway Express Agency, Scranton, of Northwest Airlines' air cargo agreement with REA remains a separate matter.

Air Transport Association, through which the airlines are setting to strengthen their position as cargo carriers, will oppose the certification or exemption of individual air carriers. It will also subject to certification of direct air carriers of property between ports of origin and "which will be adequately served" by carriers already certified.

ATA has its own comprehensive plan to give the public a fully articulated air cargo service. As approved by the Association's Board and membership, the double-barreled plan calls for (1) action individually and jointly to improve service between off-airline as well as airline points, and

property service in which all scheduled airlines participate. The special air cargo committee that set up the plan pointed out that cancellation of present REA contracts would not mean that REA would relinquish its prominence as an air cargo policy and delivery agency and a connecting surface carrier. The airlines would continue to use REA facilities whenever possible.

Under the second part of the program, Air Cargo, Inc., would become an indirect air carrier, but would serve the airlines individually in their scheduled operations.

Finalization of the distinction between air express and air freight. Cancellation of existing contracts with Railway Express Agency.

Publication of a joint air cargo tariff (under agreement already on file with CAS).

Publishing of joint rates where economically justified.

Arrangements for handling interline shipments.

Through-service or interchange agreements with surface transportation companies, including Railway Express and major truck lines.

REA's air express at the only



FULLY ARMED BRISTOL BRIGAND:

Usual view of the British Bristol Brigand showing single engine performance with full load including an externally slung cargo pod and eight tail launched rockets. The Brigand is built for air-to-surface corps bomber, mine layer and dive bomber. (Press Association photo)



COLLECTING ICE

What happens is freezing weather when rain, snow or sleet is dumped into the intake of a jet engine is the subject of studies now being made by National Auxiliary Committee for Researches with their modified B-24 bomber. The crop dusting flight crews are into a jet engine in the bomb bay. Details learned of the crop are needed which apply to winter use of intake. (NACA photo)

rested Air Cargo, Inc., to recommend a complete program under which the committee's recommendations may go forward. Association membership backed the Director's action and instructed ATA Pres. Harry S. Land to expedite the plan.

Work started at once, both by Air Cargo's board of directors, and its special committee appointed by Land. The test had to be done in winter and interexchange procedures, first of all, must be effected between air carriers and surface carriers as interchange of off-airline traffic, work out a western contract for pack and delivery and a proposed successor to the present agreement with RRA, and study equipment interchange problems.

Decided to oppose certification of Western Express Agency and freight forwarders was made an recommendation of the same special Air Cargo Committee. Advancement of ATA's plan for a coordinated scheduled air cargo service, it was said, would enable the airlines to offer a service equal or better than that which could be offered by RRA and the forwarders, whose certification, according to the ATA view, would merely provide "logistic and materially competitive answers."

Western Express Agency is an air carrier, though not permitted to fly its own equipment. CAB has exempted it from certificate requirements, but is investigating a cargo agreement between Northwest Airlines and BEA to determine whether the exemption order

application by Universal Air Freight Corp., New York, for a similar exemption. Universal currently is an applicant for a certificate, and there were reports last week that BEA would also seek one. The agency, proposed by Public Com. Policy Board and G. Robert Henry, will seek the answer to the question whether BEA's exemption order should be continued, modified or revoked. In addition it will go into such problems as the general need for independent air carrier services, best type of operation, need for classification and extent to which they should be restricted and whether they should be required to acquire certificates of public convenience and necessity.

AAF Gets Control Of Missile Research

The commanding general, Army Air Forces, is responsible for research and development activities "pertaining to guided missiles," announced by Assistant Secretary of War W. Stuart Symington last week. The committee will also include Gen. Edward M. Pownall, commandant of the Army Air Forces Test Center, and Lt. Gen. William M. Bunting, chief of the Materiel Division.

The fall-scale investigation of the question is the first conducted by the Board, and its recommendations have been disposed of in two instances.

One resulting in the assumption under which BEA is operating, while the other later decided

extends into this field as well as excess.

This is apart from the study of indirect air service in the transmission of property ordered recently by the Board and consolidated with hearings on applications in the freight forwarder case (Docket 363 et al.), some 80 of which have been reserved by the Board.

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AVIATION CALENDAR

- Oct. 14-17—Fourth Annual National Aviation Week Meeting, Hotel Roosevelt, New York.
- Oct. 21-23—National Transportation & Communications Planning, Hotel Roosevelt, New York.
- Oct. 22-23—Second Annual Electronics Trade Show, Hotel Roosevelt, New York.
- Oct. 24-25—Third Annual Airline, Las Vegas.
- Oct. 25-26—Second Annual Defense Aviation Conference, Phoenix.
- Oct. 26-27—Institute of Aerospace Sciences Meeting, Hotel Roosevelt, New York.
- Oct. 27-28—National Meeting of the American Society of Civil Engineers, Hotel Roosevelt, New York.
- Nov. 1-2—National Meeting of the American Society of Civil Engineers, Hotel Roosevelt, New York.
- Nov. 10-14—National Aircraft Show, Cleveland.
- Nov. 12-13—National Aviation Week, Atlanta.
- Nov. 13-14—International Aerospace Exhibition, New York.
- Nov. 14-15—National Air Transport Engineers Meeting, Hotel Roosevelt, New York.
- Nov. 15-16—International Aviation Conference, Hotel Roosevelt, New York.
- Nov. 16-17—International Aviation Conference, Hotel Roosevelt, New York.
- Nov. 18-19—International Aviation Conference, Hotel Roosevelt, New York.
- Nov. 20-21—International Aerospace Exhibition, New York.
- Nov. 22-23—National Air Transport Engineers Meeting, Hotel Roosevelt, New York.

Jato Certified

First FAA approved type certificate for a rocket motor has been granted Aviject Engineering Corp., covering Jetair (List Aviation) Type DMD units for all types of aircraft. Certificate designation is N-1.

AAF-ATA Joint Committee Will Plan Transport Program

Co-ordinated design and production effort sought as War Department pushes shift of entire Army to airborne operations

AAF and the Air Transport Association are forming a joint committee to study transport aircraft designs equally useful for commercial and military purposes. Assistant Secretary of War W. Stuart Symington announced last week the committee will also include Gen. Edward M. Pownall, commandant of the Army Air Forces Test Center, and Lt. Gen. William M. Bunting, chief of the Materiel Division.

Other members of the committee will be, for AAF, Gen. Carl Spaatz; Maj. Gen. Curtis LeMay, chief of research and development; Maj. Gen. Edward M. Pownall, chief of materiel, and Maj. Gen. Robert M. Webster, ATC commander ATC members, in addition to Land, will be: Marion W. Arnold, V-P, operations, and Allen W. Dallas, director of the engineering division. ATA alternates will be vice-president Robert Hensperg, Harry M. Ellington, assistant director of operations, and Marni S. Spalding, assistant director of engineering.

The directive supersedes the letter drawn up two years ago by Gen. McNamee, which divided the field between AAF and Army Ordnance, but it will have little effect upon the procedure that has been used for some time. Maj. Gen. Harry S. Arehart, general staff chief of research, will continue to be responsible for what is what, and what is not a good name.

However, under the latest directive AAF for the first time has authority to plan places of work for Ordnance. It gives AAF power to call "upon other developing agencies to perform tasks for which they are best qualified."

Symington declared that possibly the most important effect of the directive will be to make impossible any conflict between AAF and Ordnance, although he insisted no conflict existed to far.

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THRUST MEASUREMENT:

Testing thrust augmentation in a Bell P-51 jet plane through injection of a mixture of 25% alcohol and 75% water into the engine, Marquess Advisory Committee for Aeronautics uses this ingenious contrivance to measure the thrust thus obtained. All the push of the plane is directed through the rod down onto the scale. As the impetus passes up through the test, the mixture is sprayed into the air intake. Passably as much as a 50% increase in thrust can be obtained. (NACA photo)

the air force will be the Fairchild C-45 Packet, capable of carrying a 155 man crew, or a 2½-ton truck, or 50 soldiers. It is estimated that 1,100 Packets could carry an entire infantry division and all its equipment.

Other planes under construction or development for the air transportation job are: the C-45, to 50,000 lbs.; or of 100,000 lbs.; or 142 men; Douglas C-54, to carry 60,000 lbs. or 130 men; Consolidated Vultee C-60, to carry 55,000 lbs. or 160 men.

Industry observers, speculating on the role to be filled by the new AAF-ATA committee, point out that all of these aircraft were designed under military contracts, but now are either being developed in commercial versions or have commercial potential. It is extremely unlikely that—because of the initial development expense—the aircraft will be built originally for commercial use.

Because of the present War Department emphasis on an airborne army, in addition to the obvious value of speed, is to obtain tactical surprise. It is pointed out that in swoop-down movements, landing places generally are known to the attacker. This is not true of an air assault.

Dreamboat Flight Is Prelude to B-50

Trans-Pacific flight indicates capabilities of new Boeing bomber being built for AFAC 9,300 miles high above the clouds.

Putting the variety of results of the AFAC's Boeing-built B-29 Pacific Dreamboat Inter-Polar flight from Honolulu to Cazier, observer was decided last week that perhaps the most significant aspect is that the B-29 lag, following so closely the Lockheed P-38A Avenger, B-58 flight, demonstrated that the level of AFAC aeronautical engineering and operating skill is now so high that extreme range in aircraft is near to being commonplace.

The two flights taken together point to the need of confidence that performance of each aircraft—the B-29 and B-58, each with a claimed range of 9,000 mi., are not speculative. Neither the P-38 nor the B-29 were built for 10,000-mile-plus flights. That they achieved that range, is assurance

that long distance can be built into planes now under construction.

2,500-Mile Flight—The Dresdene's 9,500-mile flight could add little to the luster of the B-36, powered in combat and previous high-speed, long-distance flights. But if the 20-ton, heavier, more powerful version of the B-36 now being built by Boeing Aircraft, already working on the contract for B-36s, had its basic features last week by an additional AAF order for an undesignated number of planes.

The B-36 will have a design gross weight of 144,000 lb., against 130,000 lb. for the B-36. (Originally, the Dresdene took off at an overload of 147,000 lb.) It will be powered by four Pratt & Whitney Twin Wasp Major 2,260 hp. engines driving Curtiss electric reversible pitch propellers. The B-36 is powered by Wright Aerocraft 3,330 engines of 1,800 hp. each. The B-36 will have a larger tail area, thermal de-icing, greater range, and speed. In all, it incorporates 200 engineering changes from the B-35.

While failing to achieve a world's distance record the Dresdene's accomplishments were considerable. Their true extent probably will not be realized probably for some time. Trans-Polar flights are not new and there is a wealth of information about weather and navigating conditions in the Arctic. But the observations made by the Dresdene's crew will fill in a blank here and a chunk there of the Arctic weather picture. The rest of the world through which transitory future aerial attack will nose and slide will have to be populated.

147,000 lb. Gross—In the same manner, it has long been realized that the shortest distance between a great many parts of the world for transoceanic operations is over the Arctic. There are no notified the planes nor the need for such operations at present. But when there are, data collected during the Dresdene's flight will be most valuable.

The Dresdene took off from Hickam Field at a gross of 137,000 lb., carrying 15,000 gal. (3600 tons) of fuel. It was flying at 20,000 feet over the route west about 240 mph, except the faster route made a flight of such duration. To make the plane climb as high as 22,000 ft. Both the speed and operating altitude were new for long-distance flights and are bound to furnish additional knowledge to the AAF.



Passing Toward Polar Paths Adm't Boeing-built B-36 Peacemaker on a test flight of Dresdene prior to its over-the-Pole hop to China. (Press Association photo)

Powers Outlines Preparedness Plan

AAF Major chief outlines plan for pilot protection line technique will be used.

A revealing glimpse of AAF's plan of pilot protection line is given in its overall national preparedness for the warlike type of operations. This means that where duplicate data or fixtures are required to ensure the volume output, only one of each type would be fabricated. It is contemplated that the duplicate training required would be provided by the production line and the production acceleration phased after the start of mechanization, while the materials are being fabricated and production personnel trained. The parallel testing for major components will include engines, landing gear, propellers, turrets, superchargers, instruments, fire control equipment, and electronic equipment.

Industry **Welding**—Such details of industrial preparedness plans have not previously been made available, although Aviation Week's editor, in an article on Dec. 13, The fact that Gen. Powers was so specific in his speech, where Gen. Gaskin had intended to be general in hisities that industrial preparedness planning is so far along that officials from now on will be definite in their statements to industry.

Power **Details**—See article "As an intermediate step between comprehensive paper mobilization plans and complete scaling for mass production, pilot lines of high production tools for very heavy bombers and one fighter and major components of these aircraft are planned. Under this plan a consolidated plant will keep a complete layout for heavy power as would be required for mass production operations, prepare all necessary engineering drawings, master tools and gauges, together with the necessary sequences.

routing and operation planning, to enable him to design and fabricate the pilot line of high production tools.

The pilot line is defined to include one each of all the high production data, pigs, and fixtures necessary for the warlike type of operations. This means that where duplicate data or fixtures are required to ensure the volume output, only one of each type would be fabricated. It is contemplated that the duplicate training required would be provided by the production line and the production acceleration phased after the start of mechanization, while the materials are being fabricated and production personnel trained. The parallel testing for major components will include engines, landing gear, propellers, turrets, superchargers, instruments, fire control equipment, and electronic equipment.

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The aircraft industry, in particular—while working closely with the Army-Navy Materiel Board which is in charge of heavy bombers and one fighter and major components of these aircraft—is planning to have some clear-cut indications of what is expected of it. It is believed that "Power" specifies, as well as future statements will furnish that line, as has a recent statement of industry leaders with Donald Nelson, President Truman's "coordinator" as stand-by plants and industrial preparedness.



Gen. Gen. G. C. Gordon

Mallard 10 Place Amphibian Latest Plane in Grumman Line

\$115,000 price tag on new aircraft aimed at air carrier and executive transport market; tests reveal good performance and high speed.

Arrived at the scheduled and rescheduled air carrier markets as well as the rather restricted market of private owners and firms which can afford to own a \$115,000 airplane, the new Grumman Mallard, 10-place amphibian, offers advantages which make it a good buy in many fields.

Most interesting is the ability of the plane to prospective owners in its high cruise speed (188 mph) and a top speed of more than 200. The Mallard is as fast as it offers respectable competition to most landplanes of the same capacity and power class. (Power planes are two 600 hp. Pratt & Whitney "W" Wasp engines of 1,000 hp. turning two-bladed Standard hydrodynamic full-retractable propellers.)

Grumman Aircraft Engineering Corp., Bethpage, Long Island, is proud that the Mallard is the first amphibian to pass the latest stringent CAA tests for a Scheduled Air Carrier Operations rating, and feels that "the majority of airlines which have been considering airline operations would not be able to qualify for this rating." (Previously Grumman refers to the new CAR Part 64 rating, and to the fact that the Douglas DC-3s have been exempted from this rating for a limited period.)

Advantages of the amphibious plane cited by Grumman include:

1. Safety—Having emergency water landing facilities available which a landplane could not use, and having

ing a rugged hull structure for comparatively safe forced landings on uneven terrain.

2. Convenience—Having downtown landing facilities available on the waterfronts of most large cities, eliminating long motor rides from outlying airports used by landplanes, and having lake landing facilities in remote areas that are usually available to landplane and flying boatmen.

The all-metal, high-wing monoplane Mallard is the first Grumman equipped with tricycle retractable landing gear. The nose-wheel retracts into a small water-tight compartment in the hull nose, while the main wheels are drawn into cutout wells in the sides of the fuselage.

The Mallard hull is designed for exceptional maneuverability with minimum spray in rough water and minimum drag in a wake. A deep well in the hull bottom is designed for smooth water landings and quick takeoffs.

Luxury fittings in the passenger

cabin, include complete uplighting, carpeting and soundproofing, with ventilation by a thermostatically controlled heating and ventilating system with individually controlled heat and cold controls. Seats between cabin and tables finished in natural wood veneers. Center sections of the divans are removable for installation of portable card tables. The all-enclosed cabin features four reclining chairs in conventional airplane arrangement, a dressing room with lavatory, shower and toilet, and a large baggage compartment easily accessible on flight. Other fittings include recessed fluorescent lights, built-in smoke stand, and a television cabinet.

Range of the Mallard is quoted at over 1,000 miles. It is equipped with a single-engine performance having a static-cruise coefficient of approximately 10.000 ft and has made more than 40 single-engine takeoffs with full gear load (13,500 lbs.).

The plane is equipped with the latest safety devices including dual link systems, dual hydraulic pumps, with an auxiliary hand pump, engine fire extinguishers, and an automatic fire detector which gives warning in the cockpit and puts fire extinguishers in operation.

Pilot's compartment is roomy, fitted with dual controls. A small



Amphibious interior Looking forward to pilot's compartment, interior view of Grumman Mallard amphibian's spacious passenger cabin shows facing dining and service-type seats, accommodating 8 passengers, plus crew of 2. (Maurer and Kelman photo.)

Decca plans for the future

The Decca Navigator Company realize that the great expansion of Civil Aviation during the next few years will produce many severe problems. Forecast among these will be that of Air Traffic Control. Even more vital than the provision of a satisfactory aeronautical aid along the route, the position of traffic control in the vicinity of the main airports will prove to be the bottleneck in the entire programme of air expansion that lies before us.

To this the Decca System is being planned to solve both to-day's and tomorrow's problems.

The Decca Traffic Control Unit, based development of the Decca Navigator System, already goes far to eliminate what could well be a major problem. The unique and revolutionary instrument not only provides the pilot with all information necessary to allow him to follow any required track but also includes remote selection of any one of a large number of standard approaches to the terminal airport.

Characteristics among the facilities are the following —

- * Through flight on uncontrolled airways is gone to the fifth of ten points with respect to required route and displacement to left or right of track, in terms of distance.
- * Miles to destination.
- * Ground speed.
- * Altimeter altered to instant schedule.
- * Ability to select any one of a large number of standard approaches to the airport.
- * Ability to select any one of a large number of standard orbits.

All the above facilities are given automatically by means of the Decca Traffic Control Unit working in conjunction with the Decca Navigator System. This unit, by reference to the Decca Navigator, continually checks the position of the aircraft and compares this position with the required position necessary to make safe the intended track. Continuously, accurately and automatically it presents the results of these checks to the pilot by means of a simple display panel.

An outstanding feature of the equipment is its flexibility. Any number of standard routes can be followed; they can have any desired shape and can include diversions to avoid high ground. When flying such a route complete freedom of manoeuvre exists and a pilot can alter course to avoid bad weather and receive original track at still. Most important of all the many facilities are those associated with the approach and orbit selection. By means of these facilities, any one of many standard approaches to an airport may be followed. These approaches and orbits can have any desired shape or length. They can be designed to ensure maximum safety there can be no airport under all conditions of visibility and weather.

All who are studying the future of modern Civil Aviation will appreciate how great a part these unique facilities will play in overcoming the problems of air traffic control. It is this the policy of the Decca Navigator Company to provide just as aid to navigation, but an instrument capable of removing the maximum flow of air traffic along the air routes and into the airports with safety, economy



and reliability.

Adoption of the Decca System of Navigation will ensure the safety to keep pace with the demands of tomorrow's flying.

The Decca Navigator Company will be happy to discuss with all responsible for the planning of civil aviation the part this new development can play in solving their navigation and air traffic control problems.

The Decca Navigator Company, Limited

1-3 Bruton Road, London, England Telephone: Belgrave 3311 Teleglobe and cable: Deccar, London

PRIVATE FLYING

SALES

FIXED BASE OPERATIONS

SCHOOLS

New Cockpit Designs Stress Pilot Protection for Crashes

Cornell Medical College recommends changes in structure and surface after extensive research and crash injuries.

With public acceptance of the personal airplane, is anticipated in the near future with reduction of hundreds of highplane flying now made possible by designing greater protection for pilot and passengers into the cabin as a result following recommendations of Crash Injury Research, Cornell University Medical College, New York.

Research work has been based on an extensive survey and analysis of aircraft crashes, which was started by Crash Injury Research for the National Research Council, during World War II. Now the research work is being directed toward causes of injury in highplane accidents, under financial sponsorship of the Personnel Aircraft Council of the Aircraft Industries Association, the Aircraft Owners & Pilots Association, the USA, Army and Navy.

Research Studies—Studies of the personal airplane, conducted by Dr. Hugh D. Hayes and sponsored by Margaret Whalen, former WASP and test flier, are based on CAB safety Bureau and Army and Navy accident investigations. By analyzing reports as to damage to plane, magnitude and direction of forces, injury to occupants, and injuries caused by airplane structure, certain general recommendations to personal plane manufacturers, for safer designs are being developed.

The studies may be divided into two main classifications:

- 1. Injuries resulting from malfunction of primary cabin structure due to occupant weight.
- 2. Injuries resulting within the protective cabin structure, from insufficient holder capacity of safety belts, and from projecting controls and other hard or sharp objects with which the occupant may come in bodily contact.

It has been determined that the human body can survive application

new cabin designs with increased occupant protection. A similar design of a personal plane, undertaken by the U.S. Navy, is developing new cockpit designed to hold together under a 43 G load, and equipped with protective harness sufficient to withstand such a force.

Need for stronger safety belts has been recognized in the new Part 63 of the Civil Air Regulations which requires belt assemblies as planes coming out after Jan. 1, 1943, a one-thousand pound impact over human requirements. Manufacturers have already developed webbing for safety belts which will hold 3,700 lbs. This will not only provide a safeguard against loss of strength by deterioration, but will make possible use of two-inch safety belt assemblies which have a holding capacity of more than 4,000 lbs. Crash Injury Research has been advised that some manufacturers are planning to exceed the new minimum CAB requirements and provide 4,000 lb. safety belts on their forthcoming models.

Head Injuries—In plane accidents where the cabin structure withstands the shock of impact, most serious cause of fatality or serious injury is head injury, while pathophysiological evidence indicates that a number of existing personal plane cabin structures will not withstand more than 10 to 15 times the force of gravity. On a basis of Crash Injury Research recommendations, a number of manufacturers are now developing



RYAN LIGHTPLANE MUFFLER

Ryan Aeromarine Company, San Diego, has announced a new eight-panel stainless steel engine muffler for 45-65 hp lightplanes which incorporates complete exhaust system, eliminates 20 percent of engine noise with less than 2 percent power loss, and provides for carburetor and cabin heat. Air Associates, Inc., exclusive national retail outlet for the new muffler, will exhibit it at the National Airplane Show, Cleveland, Nov. 14-24. Above, Betty Hughes, San Diego girl pilot inspects the muffler installation on a lightplane. Diagram shows details of installation. Similar mufflers are being developed by Ryan for larger personal plane engines.



NACA LIGHTPLANE COWLING:

Little known modification by NACA preferable to lightplanes, at the cowlings designed as a warning for the Kaiser-Frazer-Meng Model 23 Trainer, later received a design for a radio-controlled target plane. Picture at left shows the original cowlings on the Model 23, while at right, is shown the NACA designed cowlings with large intake air inlet, low-drag design, completely shaped discharge vent, modified exhaust tubes. Both cowlings housed the same Franklin 120-hp engine.

sign trends are away from castellated wheels and of brittle metal, and toward wheels with broad areas of some sort made of metal covered to cover the hub.

These will provide "semi-harmless" support of the tires, and prevent the head from contact with forward structure, in many cases. Good protection has already been shown in several accidents in planes which used such wheels. Taylorcraft and North American Navions are among planes using the type wheel. (AVIATION NEWS, Sept. 9.)

Conspicuous design of instrument panels in a number of new planes has already aroused much adverse comment by passengers, trade, and air handling authorities, etc. Some new planes will make use of a "matrix culture" type instrument panel at this carved sheet metal which can be dented deeply by the pilot's head without loss of consciousness or serious head injury. This and other forthcoming developments eventually will make the panel a shield against injury rather than an injury cause.

Pilot Resuscitated—A grotting arrangement on the backrest of the front seat of the tandem trainer is necessary to provide a means for the resuscitation of a pilot who is being tried on at least one new tandem. The heretofore rigid framework of backrests has been broken for a number of serious and fatal head injuries to rear seat occupants.

Increased distances between the pilot and the nose of the plane, so that the impact of a crash will be

absorbed by the forward structure's collapse, is also desirable. A number of new plane designs are placing the pilot well to the rear of the engine.

Orthopaedic Research is confident that if no recommendations for safer plane designs are carried out that pilots of such planes will come through extremely severe accidents with only moderate injuries, and that personal plane fatality and serious injury records will show a sharp reduction in frequency.

Particular tests will determine the plane's ability to meet design specifications of 140 mph, crating speed and a range of 450 miles with four passengers and 130 lbs. of baggage.

While the Skycraft originally was announced as a plane to sell in the \$30,000 class, (AVIATION

NEWS, Sept. 24) it is now being tried on at least one new tandem. The heretofore rigid framework of backrests has been broken for a number of serious and fatal head injuries to rear seat occupants.

Michigan Aviation Groups Seek Constitution Change

Michigan aviation interests backed by the state transportation commission are pushing for a vigorous campaign for an amendment to the state constitution which will permit the state to take advantage of the federal airport aid program. Unless the amendment is voted, the state will lose over \$14,000,000

in federal funds which was to have been made available under the proposed matching program. The Michigan constitution in its present form does not authorize the state or political subdivisions to establish airports, and construction of approximately 150 airports by aeronautics funds from the state, cities and counties has been forced to be discontinued, in a recent statement. This has also threatened the maintenance and operation of the existing fields.

Skycraft Test Flight Indicates No 'Bugs'

Following a recent successful first flight, extended tests of the Skycraft Mfg. Co. (Wesley City) Skycraft four-passenger personal airplane are expected to begin immediately.

Because the plane is a two-bladed pusher with its 120-hp Lycoming engine buried in the fuselage behind the passenger cabin, particular interest lies in the effect of Test Pilot George Lyle that the cylinder head temperatures maintained throughout the first flight (Sept. 21). Apparently successful cooling of the Skycraft engine unanimous are of the weak permanent "bugs" noted in aircraft using this type of engine installation.

Particular tests will determine the plane's ability to meet design specifications of 140 mph, crating speed and a range of 450 miles with four passengers and 130 lbs. of baggage.

While the Skycraft originally was announced as a plane to sell in the \$30,000 class, (AVIATION

Ferguson Confirms

President Michael F. Ferguson, of Bantam Aviation Corp., has been confirmed in his assumption of the management of the company's "no further" with its experimental plane development program. He has joined Bantam to be a partner in all plane manufacturing operations, and will be responsible for producing aircraft parts and equipment with added emphasis on equipment relating to personal planes. The Bantam contract to develop the lightplane development project was first reported in AVIATION NEWS, Sept. 30.



Teletor picture—air traffic control by radio plus television.

Teletor—"radio eyes" for blind flying!

It is a television "information please" between airplane and airport—with the pilot's questions given split-second answers in a television screen mounted in the cockpit.

Teletor (a contraction of TELEvision Radio Air Navigation) collects all of the necessary information on the ground by radar, and then rapidly transmits a television picture of the assembled data to the pilot soft in the cockpit.

On his screen the pilot sees a picture showing the position of his airplane and the position of all other aircraft near his altitude, superimposed upon a terrain map complete with route markings, weather conditions and sustainable visual information.

The complex problem of air traffic control is well handled by Teletor.

Teletor—another achievement of RCA—was developed with Army Air Forces to spontaneously RCA Laboratories and RCA. Within, earliest source of television flying developments in radio and electronics. They are also your source that any product bearing the RCA or RCA Valuemanufactured, is one of the finest instruments of its kind science has yet achieved.

RCA Corporation of America, RCA Building, Radio City, New York 30. Later to The RCA Victor Wing, Brooklyn, 8:00 P.M., Eastern Standard Time, over the NBC Network.



Instrument Panel of the Teletor. The Teletor indicator, mounted in a cockpit, simplifies for pilot's pilot's viewing the position relative to the airport and other aircraft in the vicinity. It promises to become one of the most useful developments in the history of aviation.



RADIO CORPORATION OF AMERICA

Stevens, March 19, 1945) deliveries are expected to begin next Spring with the plane price-tagged at \$1,700 for the standard version, and \$1,800 for the deluxe model. So far all of the several hundred orders placed with the company have been for the deluxe model.

Briefing *For Private Flying*

RESCORT STRIP—The 1,393 acre Von Hoffmann farm, near Bourbon, Mo., 10 miles southwest of St. Louis, has leveled a 3,000 ft. striping, 144 ft. wide, and is inviting private flyers of the Missouri-Illinois area to fly in and dedicate it, Saturday, Nov. 2. The farm is operated as a qualifying and trout-fishing resort and expects to attract a considerable number of fixed sportsters by its new landing facility.

SPIN RECOVERY—investigation of spinning and spin recovery of personnel aircraft, is being undertaken by the NASA at Langley Research Center (Va.). The study will include verification of a method already worked out by military planes spin studies through investigation at low and high-speed transonic type, two men inboard seats and amphibious aircraft. The purpose is to make personnel planes capable of spinning, even when stalled. (Previously concluding this work that former NASA Engineer Fred Weick did which culminated in the successful *RESCUE*.)

WEATHER REPORT—Los Angeles Daily News has started publication of flying conditions in the daily Weather report column, and is believed to be the first newspaper in the country to make this daily report available to pilots.

COLOR CRUISE—Although only a small number of private flyers took advantage of the Michigan Aviation Color Cruise, Sept. 3-10, the week's tour made an interesting and pleasant flying vacation for pilots and passengers of the 24 planes which participated. Wayne Skidman, of the Michigan Dept. of Aeronautics, Lansing, is planning another shorter cruise, for private flyers, Oct. 18-21 to Kreg's Gateway, on the Midway, Wisconsin border.

COUNCIL ASSISTANT—Appointment of Jean Howard as assistant to Joseph T. Grotting, Jr., a member of the Personnel Advisory Council, is an indication of expanded plans for this organization. Miss Howard, a former WASP, will be a flying representative of the manufacturers' organizations, at various aviation conferences, and made her first appearance in her new job, at the Michigan Color Cruise. She was also serving as secretary to Don Ryan Macklin, Jr., a Klockwitz public relations executive for the Personnel Advisory Council.

GLIDER DISTANCE BROKEN—A 314 mile flight made by Dick Johnson, San Francisco, in a two-place Schweizer sailplane, from Fresno, Calif., to Guernsey, N. M., recently sets a new American distance record for gliders, and comes within 11 miles of the world record for a two-place glider established by Bannister in 1938, the Soaring Society of America has announced. Johnson, a Pan-American Airways pilot, made the flight on his vacation with Robert and Helen Bannister. The glider carried a passenger in addition to the pilot and copilot. During the flight it attained a maximum altitude of 16,000 ft. and averaged a speed of nearly 50 mph. The sailplane traveled the San Joaquin, Fresno, and Gabilan in 1 hr. and 22 sec.



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investigate the many other advantages of Air Freight at the offices of Canada's great air transport specialists. They will deliver any product to any market faster...at minimal cost.

The Purchaser Packet, first plane designed specifically to carry cargo by air ton, is now exclusively in the service of the Army Air Forces. Fast, steady, short takeoff, economy in operation are characteristics that highlight the Packet's long list of capabilities for the new age of air freight.



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TACA AIRWAYS

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Josephine
PRESIDENT



high-waisted tailoring methods are still valid, even when the "run" is as few as 20 or 30 airplanes. Although the risk of such thinking is great, these firms can enjoy a distinct competitive advantage, providing their partners an exceptionally solid management.

The unqualified judgment remains that the war has not only the tremendous volume of business, but a large reservoir of production, processing and cost estimating experience. In marked contrast to the peace period, the engineer, production and scheduling departments are now qualified to prepare fairly accurate estimates as a new project, a fact of marked value to the industry today.

Major Disappointment — One major disappointment of the war period was the fact that the length of time required to introduce a new model into production was not reduced appreciably. Proof of this failure is the large number of prototypes constructed as early as 1942, which have been held for the test stage since V-J Day. Prof. Gilbert says the blame rests with the aircraft industry's lack of experience and inexperience of the engineering staffs and lack of positive guidance by the armed services. In contrast are the airline manufacturing departments of today which are providing decidedly more specific and determined procurement policies than did the Army and Navy during the war.

One technological lesson proved during the war was the remarkable gain afforded by full exploitation of the potentialities of a given type. By applied research and

PRODUCTION

Industry Warned Against Use Of War Time Techniques in Peace

California Tech professor cautions on production emphasis in postwar management, urges more attention to design and engineering talent.

Increasing doubt is being felt among close observers of the aircraft industry as to the long-term benefit of technological lessons learned during the war. Many feel that continuation of wartime practices may prove burdensome in peace.

Strengthening these observations is a study made by Prof. Horace B. Gilbert, California Institute of Technology, which focused in particular the predominance in the wartime plants of the production viewpoint in organization management. The author of production experts that was high in war-time management during the war is not suited for peacetime, Prof. Gilbert told the recent Los Angeles meeting of the Society of Automotive Engineers (AVIATION NEWS, Oct. 7).

Emphasizes Shifts Emphasis—In peacetime, competition places greater demands upon engineering and design talent and reduces production to a secondary role. The denature of top production personnel, reduction in their salaries and the restoration of engineering authority to its prewar position has been one of the most difficult problems of the manufacturer-pilot.

In many companies, certain key personnel from the production phase of the business have been retained in the upper management circle for obvious reasons. This practice, Prof. Gilbert points out, may create increasing friction and even generate ambivalence policies which may prove disastrous in the war or distant future, depending upon individual companies.

On the other hand, it might well prove equally disastrous to return to the prewar practice, followed by several well-known companies, of investing prime production responsibility in design engineers. A careful balance, achieved by a

CONVERSION CONCOURSE:

Extent of conversion work being done by Aviation Maintenance Corp., Van Nuys, Calif., is indicated by this view of 80 planes of varied types lined up outside the company's shop. AMC in three months has leased 25,000,000 worth of aircraft, most with Argentine and Persian governments, and with others. It has 3,000 employees working two shifts and uses a 77-acre plant.

A FREE ECONOMY IS WORTH FIGHTING FOR

BUSINESS must take the initiative if the price decontrolled machinery, set up by Congress, is to be effective. The present price control law is far more than a set of instructions to the administrators of OPA; it is a challenge to business to be aggressive in speeding decontrol and in persuading the Price Decentral Board to adopt a strong stand for return to a free economy.

Thus far business has not met this challenge. Two months after the passage of the new price law has not a single application for decontrol of a major product had been filed by an industry advisory committee. This is due in part to the red tape controlling such applications. Nonetheless, a continuation of such inactivity on the part of business can well result in perpetuating price control far beyond the time either the present law or sensible economic policy require.

It was the clear intent of Congress to hasten our return to a free economy. In the legislation continuing the general control of prices, Congress formally declared its purpose to have it "terminated as rapidly as possible."

To accomplish this, the House originally approved a formula which would have made decontrol mandatory when production had attained a prescribed level. The automatic decontrol provision was dropped before the bill was finally passed, partly because of the uncertain effects of strikes on production. But Congress did not mean to return the timing and extent of decontrol to the administrative discretion of OPA.

On the contrary, to assure having price control "terminated as rapidly as possible," Congress created a Price Decentral Board and gave it power to overrule OPA when the board finds price control should be removed. Moreover, it gave to industry the right and the responsibility to seek decontrol. Also, in a further effort to speed up the decontrol process, it placed narrow limits on the time allowed for board decisions.

Congress had compelling economic reasons for doing its legislative best to speed up decontrol.

1. It is by all odds the best way to eliminate the

hurdles in production and the black markets which have plagued the country since V-J Day.

Rigid price ceilings prevent shortages of badly needed commodities by discouraging their production. Such shortages both upset the flow of production and promote black markets. At present a considerable part of American industry is strangled by shortages of critical parts and materials. Price control is much to blame.

2. There must be flexibility of prices if a round of wage adjustments, which may be forced on industry early in 1947, is to be negotiated without grave risks of seriously curtailing production.

When, under the leadership of the national administration, the first post-V-J Day round of wage adjustments was made, price ceilings were held rigid while wages were boosted. The result was a series of price-wage sequences which upset production. They would have been disastrous if we had not been in a sellers' market, created by a tremendous acceleration of wartime shortages. In 1947, however, many industries will be in a buyers' market. It must be possible, therefore, to have wage increases reflected promptly in price adjustments if we are to avoid a repetition of the early post-V-J Day round of strikes, which often had price control as the key issue.

3. Rapid decontrol is necessary to maintain a high level of employment and production.

Almost five years of price control miserably twisted the factors of production and distribution far out of the equilibrium which would prevail in a free economy to which it is the clear purpose of the nation to return. Unless the return to a free economy is facilitated by a speedy and orderly decontrol, the jolt of an abrupt return to competition can be expected to upset employment and production seriously.

It's Up To Business

To encourage speed and boldness in decontrol, Congress provided for the retrospective of control over any price which, after being released, might

get out of hand. The dangers of this sort are obviously exaggerated. During the 25-day period in July when there was no price control the Civilian Production Administration found that "manufacturers of finished industrial and consumer products have generally exhibited considerable restraint in increasing prices as more than increased costs."

All of this endeavor is spent up decontrol and expand its scope is likely to be futile, however, unless business furnishes the driving power for the machinery Congress provided. OPA certainly will not do it. Neither can the Decentral Board be expected to go out and drum up cases.

The necessity for vigorous action by business in pressing for decontrol is increased by the fact that the general legislative standards to guide decisions by the Decentral Board are vague. They must be clarified and sharpened by decisions in specific cases.

The main principle to guide the decontrol of agricultural products is that price ceilings shall be removed when supply is in approximate balance with demand. What that precisely does that mean? The meaning will become clear only through Decentral Board decisions.

The same is true of the principle which makes automatic decontrol of non-agricultural commodity contingent as whether or not it "is important to business costs or living costs." Business must press cases which will give specific meaning to those vague terms if decontrol is to get on up.

Cards Are Stacked

At present the government has the cards pretty well stacked against rapid decontrol.

First, the key members of the staff of the Price Decentral Board are holdovers from the Bowles regimen which emphasized the importance of carrying on price control rather than speed in getting rid of it.

Second, in exercising his authority to prescribe regulations to govern petitions for decontrol, the OPA administrator has required needlessly complicated statistical and economic data. Manufacturers who are sure they can convince any far-sighted board of the desirability of decontrolling certain of their products assert that they are blocked by statistical entanglements.

Third, OPA has discouraged business from moving immediately under one section of the law to speed decontrol. This section provides that products "not important in relation to business or living costs" may be freed from price ceilings immediately and must be freed by December 31, 1946, unless OPA specifically finds they are important to these costs.

Instead of making it possible for business to move under this section now, OPA has issued rules which have the effect of blocking such a move until the end of the year.

In the light of obstacles such as these, it is not surprising that the record of decontrol to date is not impressive.

Decontrol Required

Since June 30 there has been a drop from about 70% to about 55% in the total value of products under price control. But most of the drop has been accounted for by food products, which Congress took the lead in decontrolling, and by industrial machinery which was being decontrolled when Congress acted. By far the larger part of manufactured consumer goods remains under control.

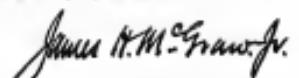
Thus, however, in no time for business to be dissolved. Rather, business should accept the obstacles put in its way as a challenge and work harder than ever for speedy decontrol.

The case for decontrol should not be stated in technical terms. It should be based on grounds of broad public policy, and should demonstrate how a speedy return to a free economy can hasten the full release of the nation's productive power.

For example, there should be very clear demonstrations of how, in far too many cases, rigid price ceilings—(1) discourage production of key parts and materials by making such production relatively unprofitable, (2) create shortages of key parts and materials which tie up tonnage ranges of production or result in piling up unneeded inventories of partially completed goods, and (3) thus cut away the foundations of a stable economy and the prospects of steadily sustained employment.

There should be equally full demonstrations of the well known sequence from shortages to unneeded price ceilings to black markets. Most prices are rolled back, but the most in relief under the ceiling.

A free economy is worth fighting for. Liberty is preserved only by the constant struggle of those who believe in it. Neither the interests of the nation in a strong and well-balanced economy nor the interests of business itself will be served by dithering at this time. Now is the time for business to lead a strong offensive for speedy elimination of price control.



President McGraw-Hill Publishing Company, Inc.

THIS IS THE END OF A SERIES

Court Decision Questions CAB Review of Presidential Decision

Further proceedings in reopened Hawaii case stayed by Circuit Court of Appeals hacking of Pacific Overseas Airline plan.

By MERLIN MICKEL

CAB attorneys, including then-Jones M. Landa, are giving close scrutiny to last week's Court of Appeals decision that stayed further proceedings in the reopened Hawaiian case and went outside the Board's jurisdiction to question the Board's authority to reopen any case decided with presidential approval.

The Board's Hawaiian case decision (Aviation News, July 9), overseen by President Truman, certificated United Air Lines to operate between San Francisco and Honolulu, but because of a 3-to-2 split as whether United or Hawaiian Airlines should be certificated between Los Angeles and Honolulu, the Board immediately announced this phase of the case would be reopened.

Added Weight — The court's memorandum questioning the action, Landa said, "pertained to the doctrine previously pronounced by the Second Circuit Court of Appeals in the American Export case that presidential action in international route cases removes them from Board review."

Stay of the Board order was sought by Pacific Overseas Airlines of Ontario, Calif. POA filed application for a Los Angeles-Honolulu route six weeks after the Hawaiian decision, and followed it two days later with a petition to intervene. This the Board denied, and POA took the case before the U.S. Court of Appeals for the District of Columbia.

On the merits the case was heard, POA brought to court an affidavit from the Army to support its contention that war communists assassinations had prevented it from making an application for the route before it did so. In granting the stay, the court recognized that the affidavit was not in the record before the Board and could not be considered by the court, but remanded

it, apparently constituted final disposition of the entire proceeding then pending. Perhaps, it was suggested, the Board should institute a new proceeding to determine whether another carrier should be certificated between the U.S. and Hawaii and, if so, who the carrier should be.

The court favored the possibility that application denied certificates in the original proceeding might be fit to renew their requests, confining them in a route between Los Angeles and Honolulu, in which event the Board might consolidate them with POA's application.

At CAB, the court's observation was being examined for possible effect on other international cases. Notable is the Latin American case, which the Board already has announced (Aviation News, July 30) it would proceed to determine need for certificating the route between eastern U.S. cities and the Canal Zone via West Indian points. Petitions have been filed to reopen the Pacific and South Atlantic cases also.

Domestic route cases, frequently reopened by CAB, would not be affected, since they do not require presidential action.

Anglo-Italian Airline Plans Extensive Service

British European Airways operates under an new civil air agreement with the Italian government. It will be established only for the time being, but the company hopes to extend them before long to most European capitals and South America.

The agreement provides for an Anglo-Italian company to be called

"Aero Lines Italian Internationale" (International Italian Airline) with 50 percent of the capital of one million lire (over \$4,300,000) in Italian funds and 40 percent by British European Airways. Both will exert services as soon as possible.

Steamship Lines Wait Air Verdict of CAB

Decision over an fled attempt of surface carriers to obtain route certificates from board before passing right in Congress.

Most of the nation's leading steamship lines last week awaited CAB's review to their latest plan for routes of public convenience from the Board and at the same time reluctantly pushed efforts to obtain relief through Congressional action.

Steamship oilers presented before the Board, in which a complete proposal of the air-sea question was sought, was being viewed as the final stamp by steamship interests to obtain confirmation from CAB as presently constituted. A Board refusal to reconsider its position or to accept a resolution contradictory to the surface carriers would leave appeal to the courts and Congressional amendment of the Civil Aeronautics Act as the alternative, with the latter across the board prevailing.

Contest CAB Mistakes — Robert E. Kline, Jr., general for the steamship companies, renewed the

surface carriers' contention that Congress never intended to exclude them from the air over route section 433 (b) of the Civil Aeronautics Act. He said that as a result of CAB's mistaken interpretation of Congressional intent, certificates were still being issued in a favored few.

Recent international agreements have worked out so that competitive foreign shipping interests directly or indirectly have been permitted to engage in air transportation with this country, Kline asserted. He pointed out that in Great Britain, France, The Netherlands and other countries complete air-sea coordination is achieved at a governmental level and that these foreign operators are already advertising one-way-by-air, one-way-by-sea services.

Proposed Blockade — Both Kline and Capt. A. A. Admire, William G. Smith, chairman of the U.S. Maritime Commission, emphasized that increased freight traffic reduces the passenger load and that if the latter leaves by foreign surface the former will travel by foreign surface carrier. Admiral Smith said CAB and the Maritime Commission should put U.S. commercial air and sea fleets in a position where they can complement each other in providing a solid front against foreign flag competition and be a nucleus for adequate national defense.

Master Captain, Air Transport Association, concurred, asking the Board to refuse the steamship companies bid for reconsideration of the air-sea controversy, asserting the service

Beibe Rules

KLM, Royal Dutch Airlines, believes in moderation in all things. Royalists have been quoted as saying, "Kings don't eat all that's all right to eat and eat from a patron but that anyone detected taking more than one will be dosed for abusing a tribe."

Face unbroken were seeking to obtain another hearing on their sharply argued issues. CAB Chairman James M. Landa and other Board members appeared skeptical that sufficient new factual evidence is yet available to prove that American surface carriers are facing destructive competition from foreign sea-air carriers.

Airlines Oppose Commuters

Asserting that any further traffic expansion would disproportionately overload the city's airports, Northeast Airlines, Eastern Air Lines and Island Air Ferries recently opposed the New York area shuttle and feeder service proposal of Air Commuting, Inc., in an argument before CAB.

The opposition, to be conducted with Grumman Mallard amphibians, has already received the endorsement of a Board examiner and the Port of New York authority.

Air Commuting told the Board it should be granted a certi-



AIRMAIL COMES TO GARY:

That helicopter settled to the ground in a Gary, Ind., school yard with a load of airmail from Chicago as part of helicopter airmail tests being conducted in that area by the Post Office Department. (Aviation News)



INSIDE THE TUDOR II:

Day and night versions of the Avro Tudor II, which has been test flown successfully (Aviation News, May 6), are shown above. The British-built craft will be used by BOAC. With accommodations for 40 day or 26 night passengers, with a cruising speed of 245 mph at 25,000 ft, it is in production. Each is powered by four 1,600-hp Rolls-Royce Merlin engines.



It. This compares with 20,000 lb. for the Tudor I, which will carry 22 night or 24 day passengers, with a 4,200-mile range. Both ships, on which cruising speed is 245 mph at 25,000 ft, are in production. Each is powered by four 1,600-hp Rolls-Royce Merlin engines.

case to test the feasibility of an novel airport-to-airport, airport-to-airport connecting links, adding that Midwest and Floyd Bennett Field will soon receive attention at LaGuardia. The carrier noted that since it planned constant flight operations only, it would not contribute to congestion among from instrument controllers.

Northwest Officials Plan Orient Route Conferences

Northwest Airlines representatives are to leave for the Orient this month to arrange landing rights in Japan, China and the Philippines for RNAA's trans-Pacific service.

Plans for inaugurating the operation around Feb. 1 were discussed during Northwest's annual stockholder meeting recently, at which all officers and directors were re-elected. First DC-4 survey flights to the Orient is scheduled before the end of the year.

Stops Requested

American Overseas Airlines has requested CAB permission to serve Bremen, Hamburg, Bremen and Cologne, Germany, on its North Atlantic route.

GAB Hearings on Gander Crash Scheduled for N. Y.

Hearings on the recent American Overseas Airlines DC-4 crash near Gander, Newfoundland, will be held in New York City late next week, CAB air safety officials vowed, only days back that the cause for the accident could be established definitely.

With no indication of engine failure, and in view of the clear weather, investigators were at a loss to explain why the plane had been unable to clear a 3,300-ft hill some twelve miles from the takeoff. Thirty-nine persons died in the disaster—wants in the history of U. S. commercial aviation.

Eastern Crash Caused By Fuel Pipe Line

Crash of an Eastern Air Lines DC-3 near Cheshire, Conn., Jan. 28, was caused by failure of a fuel line or fuel line connection, resulting in an engine fire and subsequent collapse of the left wing, a CAB accident investigation report states. All 14 passengers and three crew members died in the mishap.

Evidently that the plane's crew was unaware of the fire and had made no effort to control it again, illustrated the need for automatic fire detection equipment, CAB and The Board noted that as a result of the Cheshire crash and other accidents involving fires in flight during the past year new fire prevention regulations for transport planes were promulgated last month (AVIATION NEWS, Sept. 23).

Evidently that the plane's crew



LUMBER LOAD:

The box car shortage led to what United Air Lines officials believe was the first large-scale emergency lumber shipment by air when Eugene, Ore., lumber dealers sent two 14,680-lb planks loads of pine, spruce and fir flooring from Eugene, Ore., to Salt Lake City. Air freight shipment of doors and windows earlier from Portland to Salt Lake City also were arranged.

was unaware of the fire and had made no effort to control it again, illustrated the need for automatic fire detection equipment, CAB and The Board noted that as a result of the Cheshire crash and other accidents involving fires in flight during the past year new fire prevention regulations for transport planes were promulgated last month (AVIATION NEWS, Sept. 23).

Indian Air Administration By Regional Control

Creation of two administrative regions by the Indian Civil Aviation Directorate, one at Kolkata and the other at Dehra Dun near Calcutta has the effect of dividing Indian air transport into an eastern and western system. Mass transline traffic will go via these two points, but interline airways are expected to develop mainly on the north-south lines passing on the regional centers.

Beside Ahmedabad, Jacobabad (Baluch), Lahore, Jodhpur and Delhi will be under the Karachi Jodhpur, and Calcutta, Dehra Dun, Allahabad and Madras under Dehra Dun.

Estimates are that by the end of the year 110 airports will have been taken over from the IAF by the newly-created Air Transport Licensing Board, which is charged with helping integrate India's airways system and upholding international conventions.

Wiggins Seeks Five 'Copter Routes Out of Boston

E. W. Wiggins Airways, Inc., Needham, Mass., recently-organized New England franchise, has asked CAB authorization to operate helicopters over five circular routes radiating from Logan International Airport, East Boston Mass., passenger and cargo service to 30 eastern Massachusetts communities participated in the application.

The above, Wiggins closely follows a CAB examiner's recommendation that Yellow Cab Co. be certified to conduct helicopter routes in the Cleveland, Akron (Akron News, Sept. 30) and new helicopter hub by Southwest Airlines Co., west coast member, Southwest, which participated in the Los Angeles area helicopter hearing last month, recently applied for three more helicopter routes radiating from San Francisco Municipal airport to San Jose, San Rafael and Vallejo.

Auto Air Delivery

The British-built Bristol freighter, on tour through 17 countries in North and South America, made the first air delivery of an automobile at Boston when the Austin sedan that had been carried in the ship's hold (AVIATION NEWS, Sept. 30) was unloaded there en consignment to a local company.

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AUTOMATIC APPROACH DEMONSTRATED:

United Air Lines, which is equipping its fleet with Sperry electronic autopilot (AVIATION NEWS, Sept. 27) recently demonstrated automatic airport approaches which the drivers make possible in the first such show by a commercial airline. Picture shows aviation writers grouped about a VHP glide path transmitter at MacArthur Field, Long Island,

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Russian Hail Over Scandinavia

THERE is nothing mythical about reports of Russian buzz bombs over Scandinavia except the claim that the missiles are meteorites. A week's intensive questioning in Denmark and Sweden justifies this conclusion.

Determined not to contribute to world unrest or "fear psychosis," the Scandinavians refuse to talk officially about the phenomenon, and have kept the lid on the subject to the extent of persuading press associations to stop dispatching reports which are not officially confirmed. The Swedes have confined one writer to an institution until he could " sober up" and cease talking on this unauthorized subject.

Talk with newspapermen, aviation officials, writers and other well informed citizens in Denmark and Sweden justify these statements.

The bombs are coming from the old German research center of Peenemuende, seized intact by the Russians, where scientific work is still underway.

The bombs are cigar-shaped, jet-type missiles smaller than the V-1. They had been developed by the Germans before Russian occupation but had not yet been used. They are projectiles without wings or tails, according to an eye-witness who watched one of the same-splitting missiles for five minutes as it passed across the sky toward western Sweden about 8 o'clock one afternoon early in August.

Some are believed to be remote controlled, and have been seen changing their course and heading eastward again like mechanical boomerangs. Actually, it is believed the Russians had no intention of permitting any of their hill to fall in Scandinavia, preferring that the missiles land in their own area for more careful observation.

Estimates of the range of these new missiles run as high as 3,000 miles, with a more popular guess 2,000 miles. Numerous eye-witness reports have come from the extreme northern areas of Sweden.

The bombs have started off the past few weeks, perhaps coinciding with successful progress of the Swedish-Russian trade negotiations.

Hundreds of Swedes have seen the bombs, and reports from distant points have tallied perfectly as to description of appearance, time and trajectory. Time lag noted at progressive locations indicated clearly that the missiles were not meteorites.

About 10 missiles have been seen plainly over

Stockholm since June. Others have been reported over Sweden and Denmark. No reports have come from Jutland, where strict censorship is imposed.

About a month ago a bomb fell in Denmark, killing several persons. No other deaths have been reported. As in Sweden, the official Danish explanation of the accident was charged up to a meteorite.

One missile fell into a lake in Sweden. Government authorities quickly took over and dredged for the object, using some 400 military personnel. Witnesses said heavy material, well covered, was shipped out of the area during the night. Nothing has been heard of the missile since. Pointing out that August was the month of meteors, the government said the falling object probably was a natural phenomenon.

No evidence could be obtained that anything more than missile pieces of any bomb has been found. All of the objects which have fallen have disintegrated. One witness interviewed and these fragments were of magnesium—not the stuff of meteorites.

Although there is no censorship in Sweden, newsmen have been requested not to disseminate material abroad which would contribute to international hysteria. This appears to be another reason that the most recent press dispatches on the subject, still emphasizing the meteorite angle, have been coming from England instead of Scandinavia.

This writer sought an interview with one aviation writer said to be one of the best informed Swedes on the subject. A telephone call to his office revealed that he had just been sent to a subscription for stockholm, after several indirest discussions of his experiences on field trips to study the missiles.

A co-worker, also known to be well informed, and he had been given strict instructions by the government to make no comments whatsoever. Several Foreign Office officials in both Sweden and Denmark refused to speak on the subject, except to stress the fact that no missiles had been found. "Missile hysteria" is the favorite official reason put forth by the spokesman for these little countries which yearn so much for a peaceful world.

ROBERT H. WOOD



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Units of the compass-controlled directional gyro-
scope system. Instruments in foreground are a
remotely operated compass and a new-type
small directional gyroscope. Mr. Lynch is pointing
to a larger gyro-instrument now obsolete.

MORE FREEDOM IN FLIGHT

THESE three G-E aircraft-instrument engineers, Messrs. Savage, Lynch, and Princi, were prominent in the development of the new compass-controlled directional gyroscope shown in the foreground. This is the first directional gyro that functions as if it had universal freedom of motion. It is not disturbed by sharp dives, spins, rolls, or other acrobatics. Teamed with the compass it becomes part of an electric instrument system that gives an airplane sustained and accurate directional heading in auto-piloted flights. The system is so designed that errors usually occurring when compass and gyro are separate are automatically corrected. However, both can work separately if necessary.

In a plane, the compass is located near the wing tips and is electrically connected with the gyro which is considerably smaller than earlier models, and weighs less than the one now in general use. Unaffected by the earth's rotation, it points a steady hand to the set course, and frees the pilot from another routine task. Other electric instruments are being constantly designed by General Electric—including those for jet-propelled planes. Our engineers tackled many "can't-be-done" tasks during the war years. They'll be glad to help you with yours in the years to come. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*



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